



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,956	07/16/2003	R. David Rhodes	54578-00003USPT	9996

7590 06/09/2004

Alan R. Thiele
JENKENS & GILCHRIST, P.C.
Suite 3200
1445 Ross Avenue
Dallas, TX 75202-2799

EXAMINER

STEPHENSON, DANIEL P

ART UNIT	PAPER NUMBER
----------	--------------

3672

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,956

Applicant(s)

RHODES ET AL.

Examiner

Daniel P Stephenson

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/16/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claim 19 is objected to because of the following informalities: In line 3 of the claim the term "check well" should be changed to --check valve--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 8-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the pre-grant publication '654 to Carlin in view of Gregston and Canterbury. Carlin '654 discloses (Fig. 2-5) a downhole injection valve assembly for controlling the downhole insertion of chemical into a well through capillary tubing. The downhole injection valve assembly has an elongated tubular housing including an inlet end and an outlet end. The elongated tubular housing can be attached to the capillary tubing at the inlet end. There is a mechanically biased check valve positioned within the housing at the outlet end to prevent the entry of gas, fluids or solids from said well bore into the interior portion of said elongated tubular housing. Carlin '654 does not disclose that there is a chemical reservoir or that the chemical is pumped down using a chemical pump. Carlin '654 also does not disclose that there are 2 ball check valves in series within the tubing or that the amount of bias on said first adjustable mechanically biased check valve is determined by the characteristics of said well, the chemical being inserted into the well, and the characteristics of the system for causing the chemical to flow through the capillary

Art Unit: 3672

tubing. Carlin '654 also does not disclose that the first ball check valves bias is adjustable through the amount of compression on a spring imparted by the spring carrier.

Gregston discloses (Fig. 2) a chemical injector that is fed by a reservoir that feeds into an elongated tubing using a chemical pump. The elongated tubing has multiple ball and seat check valves in series. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the pump, reservoir and check valve configuration of Gregston on the apparatus of Carlin '654. This would be done for a variety of reasons. First, the pump and reservoir would be used because this is typical in the wellbore art of chemical injection to use a pump and reservoir. Second, the series check valves would be used because it provides redundancy within the system so that no fluid is allowed passed the first if the second should fail.

Canterbury discloses (Fig. 1) a check valve in which a number of variables (col. 2 lines 61 - col. 3 line 16) are used to determine the adjustability of the check valve member and that bias of the valve is adjusted accordingly. The bias of the spring (13) in the check valve is adjusted by moving the spring seat (15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the ball and seat valves of Carlin '654 in view of Gregston adjustable by adjusting the bias as shown by Canterbury. This would be done that greater control of the check valve could be maintained according to different variables of the well.

4. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlin '654 in view of Gregston and Canterbury as applied to claims 6 and 15 above, and further in view of Warnock, Sr.. Carlin '654 in view of Gregston and Canterbury shows all the limitations of the claimed invention, except, It does not disclose that the seat of the ball and seat check valve

Art Unit: 3672

is hardened. Warnock, Sr. discloses (col. 3 lines 51-54) a ball and seat check valve in which the seat (19) is made of hardened material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a hardened seat as taught by Warnock, Sr. on the apparatus of Carlin '654 in view of Gregston and Canterbury. This would be done to provide a more wear resistant valve.

Conclusion

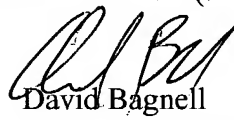
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Langer, Adkins et al., Laurel, Chappell et al., Chenoweth, Hebert et al., Munari et al., McStravick, Whittle, Maly et al., Hill, Kerver and Bailey et al. all show similar elements to those of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel P Stephenson whose telephone number is (703) 605-4969. The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on (703) 308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Bagnell
Supervisory Patent Examiner
Art Unit 3672

DPS

